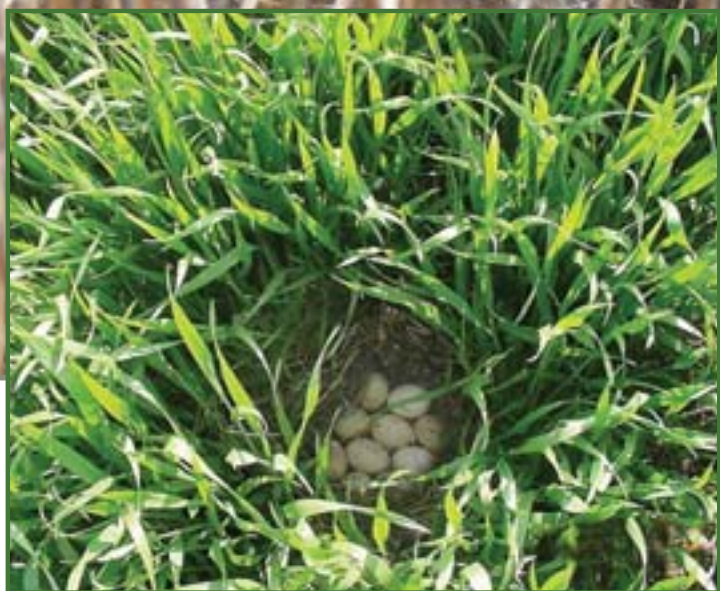




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WINGED WILDLIFE and WINTER WHEAT

By Luann Dart

A pintail hen (opposite page) sits on a nest in winter wheat. Pintails are early nesters and can benefit from the cover provided by tall stubble. Inset: When the winter wheat has grown some, it provides dense cover for ducks, pheasants and other birds that start their nesting later.

Blake Vander Vorst, Ducks Unlimited regional agronomist, reveals a duck nest in winter wheat undisturbed by farm machinery during the nesting season.

Harlan Klein kneels in the stubble field where the wheat rests in a winter slumber, waiting for spring's inspiration. During summer's harvest, the winter wheat will become our bread of life. But during spring's rebirth, it can bring new life to the winged wildlife of North Dakota.

North Dakota producers seeded an estimated 140 percent more winter wheat in 2008 than 2007, according to the U.S. Department of Agriculture's National Agricultural Statistics Service.

Winter wheat acres increased from 200,000 in 2006 to 650,000 in 2008, signaling that more farmers are discovering some benefits to the crop. At the same time, an increase in winter wheat acreage means more viable acres for wildlife habitat.

"We like to have grass cover out there, but I also like to eat my Wheaties," said Ron Reynolds, a wildlife biologist with the U.S. Fish and Wildlife Service in Bismarck. "We're going to be growing food for our country and the world, so a lot of times we're looking at the best alternatives that are the most friendly for both the food industry and for wildlife. We find the fall-planted wheat, especially when it's planted in stubble, is a much better alternative than spring-planted crops."

Bringing New Life

Klein, an Elgin area farmer, seeded about 2,500 acres of winter wheat in September. It germinated and carpeted the fields in green until it froze and became dormant through winter. In April, it began



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to grow again and will be harvested in July, about two weeks before spring-planted wheat harvest.

Winter wheat's main advantage for wildlife is that it is undisturbed during the nesting season. The ground for spring wheat, on the other hand, is prepared and planted at about the same time most birds, particularly waterfowl, are starting to nest.

"What ducks are looking for are large blocks of undisturbed grassland ... the key is having some cover over a large portion of the landscape," said Mike Johnson, waterfowl biologist with the North Dakota Game and Fish Department. "They need someplace to nest and winter wheat can provide that."

Most duck species nest in late April and early May away from water in the uplands. In areas where there is not sufficient permanent grassland like native prairie or Conservation Reserve Program cover, hens may be drawn to stubble or other plant growth from the previous year. Predation is the main cause of nest destruction in grasslands, and spring tillage destroys a lot of nests in stubble.



Searching for duck nests in winter wheat.

If a nest is disturbed, whether by predation or tillage, ducks will renest from three to five times or until a clutch hatches, Johnson said.

While winter wheat is not as attractive to nesting ducks as dense grassland, waterfowl that nest in winter wheat have a higher success rate, Reynolds said. "Data suggests that nesting success is very high in that type of cover," he said.

Research by Ducks Unlimited in Canada studied nesting success in fall-seeded

crops versus spring-seeded cereal grains. Over a two-year study, one nest was found in every nine acres of fall-seeded crops, while one nest was found in every 74 acres of spring-seeded crops. Nest success averaged 22 percent in the fall-seeded crops, but only 3 percent in the spring-seeded crops.

Other research by Ducks Unlimited has shown that ducks that nest in winter wheat are 10 times more likely to hatch a brood than those that nest in spring-seeded crops. "That's pretty significant," said Blake Vander Vorst, Ducks Unlimited regional agronomist in Bismarck.

"Based on the research results, Ducks Unlimited has concluded that the potential of fall-seeded crops to improve the fortunes of prairie-nesting ducks, especially pintails, is great," the Ducks Unlimited website (ducks.org) states.

Pheasants and other birds also benefit from increased winter wheat acres that provide undisturbed nesting and feeding grounds. A combination of woodland, grassland and cropland is the best habitat for pheasants, said Stan Kohn, upland game management supervisor for the North Dakota Game and Fish Department.

"Vegetation early in the spring is a benefit to any ground-nesting bird out there," said Dan Hare, Pheasants Forever regional biologist for Montana, and formerly for North Dakota. "While ducks maybe have a little more inclination to go into that winter wheat, I feel that there is a possibility for benefit to pheasants as well. Having winter wheat out there over a summer fallow field is far more beneficial."

Planting the Crop

Waterfowl winging overhead this spring will find more winter wheat habitat, thanks to producers like Klein.

Klein had abandoned winter wheat until four years ago, when he started working it into a four-year crop rotation with spring wheat and sunflowers. "What we like about it is the fact that it spreads our workload," he said. "Whatever you can get seeded in the fall, you don't have to



Winter wheat seeded into spring wheat stubble may only be obvious on close inspection. Waterfowl and upland bird hunters need to watch for this before entering what appears to be a harvested small grain field.

Watch for Winter Wheat When Hunting

North Dakota hunting regulations prohibit hunting in unharvested crops without a landowner's permission. Sprouted winter wheat, which is typically planted in September, would qualify under that regulation, both in fall and spring.

Winter wheat is usually planted as a no-till crop, which means stubble from the previous crop will still be in the field. Watch for sprouting wheat in rows, which would signal a seeded winter wheat field.

However, some winter wheat fields may not have obvious sprouting wheat. In that case, look for rows of tilled ground, from 6-12 inches apart, where planting may have taken place.

"Be cognizant of the fact that the winter wheat may not have sprouted very far or not at all, so look for obvious rows where planting would have occurred," advises Joel Ransom, an agronomist with the North Dakota State University Extension Service.

seed in the spring, so it just spreads out that workload."

Covering more acres with the same amount of equipment and labor is an issue across the state. "Farms have grown in size really dramatically in the last 20 years," Vander Vorst said. "We have a lot less farmers, but we have a lot more acres than an individual is farming now."

Winter wheat also typically yields more than spring wheat, and is harvested before the extreme summer heat starts battering yields, Klein said. "This area gets pretty hot in July and by that time the winter wheat is usually beyond the flowering stage and it beats the element factor where it doesn't get stressed as much as spring wheat does," he said.

Klein points to one of his winter wheat fields that yielded twice as much as a neighboring field of spring wheat during last summer's harvest.

But winter wheat offers challenges, which has kept it from becoming a primary crop in the state. For comparison, North Dakota farmers planted about 6.6 million acres of spring wheat in 2007, compared to 400,000 acres of winter wheat.

Winter elements sometimes devastate the crop. Winter wheat will be destroyed if it's

brought out of winter dormancy by a mild March, then hit with extreme cold. And varieties developed specifically for North Dakota's conditions are nonexistent, Klein said, because North Dakota State University does not have a winter wheat breeding program.

"There are weaknesses in all varieties currently from one aspect to another," Vander Vorst said. "There have been some improvements, but most of those improvements were made in the 1990s and we haven't seen a lot of big gains."

Klein also points to winter wheat mosaic, a disease which can cut yields to fractions. "If it's there, it'll move into your winter wheat when your winter wheat starts green-ing up in the spring of the year," he said. "It's not a pretty sight to see it happen."

As chairman of the North Dakota Wheat Commission, Klein points to the work with Vander Vorst as benefiting both farmers and wildlife. "Our goal is to provide anything that's out there for the producers to do a better job," Klein said. "If it benefits wildlife, too, that's a win-win situation."

LUANN DART is a freelance writer from Elgin, North Dakota.

Learn More

To learn more about the Ducks Unlimited winter wheat program or for management information, contact Blake Vander Vorst at 701-355-3533. Information on the Ducks Unlimited agronomy program is also available at www.ducks.org/Conservation/AgronomyNews/51/AgronomyNewsLandingPage.html.



Harlan Klein, an Elgin area farmer, seeded about 2,500 acres of winter wheat in September.

Providing Incentives

Ducks Unlimited has a "five-legged stool" of programs to promote winter wheat plantings, including research, education, technical assistance, incentives and promotion.

The Ducks Unlimited agronomy program provides information on everything from crop management to variety testing. Since the program began in 1999, producers are getting 5-20 bushels an acre more from winter wheat than spring crops, according to Blake Vander Vorst, DU's regional agronomist.

North Dakota winter wheat yields averaged 27 bushels an acre in 1981, compared to 50 bushels an acre in 2007. Spring wheat

averaged 24.5 bushels an acre in 1981, compared to 36 in 2007. Spring wheat, however, typically brings a higher price, averaging \$7.30 per bushel in North Dakota last year, compared to \$6.40 per bushel for winter wheat.

Ducks Unlimited has developed incentive programs in Dickey, Ward, McLean and Mountrail counties through Bayer CropScience and Syngenta Crop Production. Producers can get \$10 per acre up to 150 acres for a three-year period for using those company's products in winter wheat production.

Nearly 160 producers have taken advantage of the program since it started in 2000.